MPMC BEYOND ENERGY

Model: MBL20(S)-2

Powered by Baudouin

Applicable Standards

- ISO 8528-5:2018
- GB/T2820.5-2009
- CE
- ISO 3046
- ISO 12944 (*SC only)

General Information		Rated Power			
Frequency	Voltage	Prime Power		Standby Power	
Hz	V	kVA	kW	kVA	kW
50Hz	415V/240V	N/A	N/A	N/A	N/A
	400V/230V	N/A	N/A	N/A	N/A
	380V/220V	N/A	N/A	N/A	N/A
	220V/110V	N/A	N/A	N/A	N/A
60Hz Rated	480V/277V	22.5	18	25	20
	Rated 440V/254V	22.5	18	25	20
	400V/230V	N/A	N/A	N/A	N/A
	380V/220V	N/A	N/A	N/A	N/A
	220V/127V	22.5	18	25	20
	220V/110V	18.3	14.6	20.2	16.2
Power Factor		0.8 Lagging			
Engine		4M06G20-6			
Rated Speed		1800 RPM (Unchangeable)			
Fuel Type		Grade No. 2D per ASTM D975			
Lube-oil Type		API Service CF Class SAE 15W-40			
Alternator		LYG 184E			

Noise Level		50Hz	60Hz
Average Value @1m,75%load	OE Series dB(A)	N/A	106.2
	SR Series dB(A)	N/A	TBA

Fuel Consumption		50Hz	60Hz
Load Ration	L/h@110%	N/A	7
	L/h@100%	N/A	6.5
	L/h@75%	N/A	5
	L/h@50%	N/A	3.6

Dimension and Weight	OE Series Open-type	SR Series Silent-type
Length (L) mm	1730	1950
Width (W) mm	610	793
Height (H) mm	1192	1125
Net. Weight (kg)	560	820

Note: Specifications and illustrations are subject to revision without notice.

Environmental Conditions

- Ambient temperature: +5°C~+40°C (Rated Power)
- Maximal ambient temperature：50°C
- Altitude: ≤1000m
- Anti-dust, anti-corrosion and ultra-silent

*Remark: If your conditions are different from the above, please contact our sales.

Factory Inspection

- Complete design and quality inspection
- 0%, 25%, 50%, 75%, 100%, 110% load test
- IP test
- Noise test
- Function test
- Protection test

ISO9001:2015 Quality system certified · ISO14001 System certification · OHSAS18001 System certification · CE certificate

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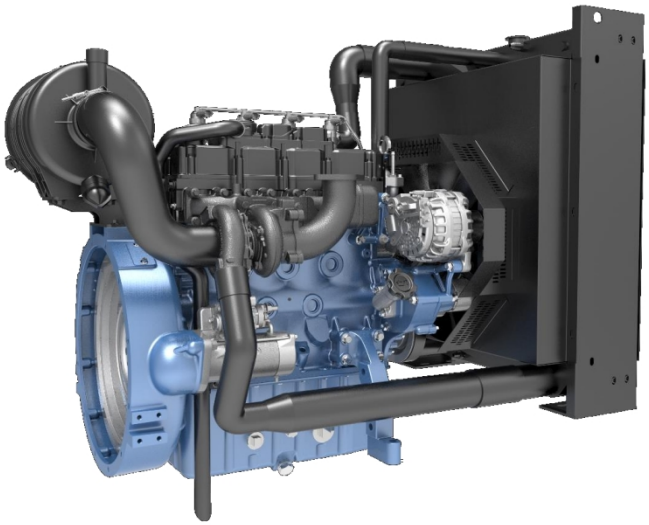
Engine Specifications



Engine model	4M06G20-6	
Emission	N/A	
Number of cylinders	4	
Cylinder arrangement	Vertical inline	
Cycle	Four stroke	
Aspiration	Naturally aspirated	
Bore x Stroke	89 x 92 mm	
Displacement	2.3 L	
Compression ratio	17.5 ： 1	
Gross prime power /speed	N/A kWm/1500 rpm	23 kWm/1800 rpm
Gross standby power /speed	N/A kWm/1500 rpm	25 kWm/1800 rpm
Speed governor	Electronic	
Cooling system	Liquid (water + 50% antifreeze)	
Steady State Stability Band at any Constant Load	≤±0.5%	
Total lubrication system capacity	11.5 L	
Coolant capacity (engine only)	5 L	
Starter motor	DC 12V	
Charge alternator	DC 12V 35Amps	

☑Industrial silencer / ☐Residential silencer / ☐Critical silencer	☐Spark arrestor
☑Heavy duty air filter / ☐Single-core air filter	☑-18℃ start up battery / ☐-45℃ start up battery
☑Anti-vibration mount	☑Flexible fuel connection hoses
☐Water-fuel separator / ☐ Multi-water-fuel separators	☐Jacket water heater / ☐ Fuel jacket water heater
☐Coolant level sensor	☑Coolant temperature sensor
☑Lube-oil pressure sensor	☐Lube-oil temperature sensor
☐Lube-oil auto refilling meter	☐Lube-oil auto refilling tank
☐Smoke temperature sensor	☐Lube-oil manual pump
☑Replaceable fuel filter, oil filter	☐Breath box

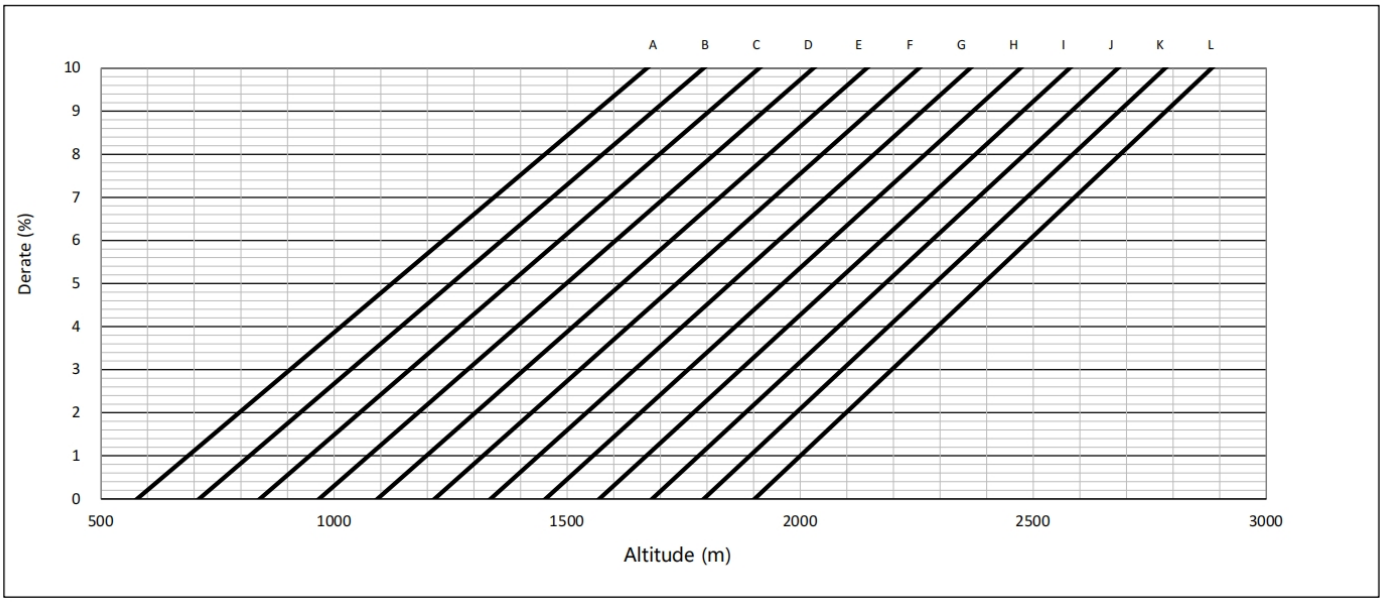
Engine Derating Curves

50Hz/1500RPM

N/A

60Hz/1800RPM

Ambient Temperature (°C / °F)	A	B	C	D	E	F	G	H	I	J	K	L
	55 / 131	50 / 122	45 / 113	40 / 104	35 / 95	30 / 86	25 / 77	20 / 68	15 / 59	10 / 50	5 / 41	0 / 32



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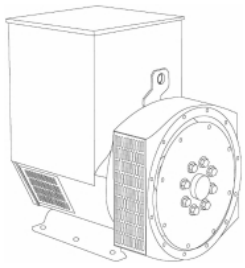
Alternator Specifications



Alternator model	LYG184E-V02
Number of phase	3
Power factor (Cos Phi)	0.8
Poles	4
Winding leads	12
Insulation level	H class
Temperature rise	H class
Excitation	Brushless
AVR model	SX460
Winding Pitch	5/6
IP rating	IP22
Bearing	Single bearing
Voltage regulator	±1.0%

☐Space heater ☐Air filter (5% derating)

☐Anti-harsh environment ☐RTD ☐STD

Alternator Ratings Table

Class-Temp Rise		Cont.H-125/40℃				Standby-163/27℃			
50Hz	Series Star(V)	380	400	415	440	380	400	415	440
	Output(kVA)	22.5	22.5	22.5	17.5	N/A	N/A	N/A	N/A
	Efficiency(%)	83.7	84.2	84.5	84.9	N/A	N/A	N/A	N/A
60Hz	Series Star(V)	416	440	460	480	416	440	460	480
	Output(kVA)	27.5	28.8	28.8	30.0	N/A	N/A	N/A	N/A
	Efficiency(%)	83.4	83.6	84.1	84.2	N/A	N/A	N/A	N/A

De-Rates

All values tabulated above are subject to the following reductions:

- 3% for every 500 meters by which the operating altitude exceeds 1000 meters above mean sea level
- 3% for every 5°C by which the operational ambient temperature exceeds 40°C
- For any other operating conditions impacting the cooling circuit please refer to applications

Note: Requirement for operating in an ambient exceeding 60°C and altitude exceeding 4000 meters must be referred to applications.

Alternator Operating Charts

400V@50Hz

TBA

480V@60Hz

TBA

One-step Load Acceptance

ISO 8528-5	50Hz		60Hz	
	50% sudden power increase	100% sudden power decrease	50% sudden power increase	100% sudden power decrease
Transient frequency difference (%)	TBA	TBA	TBA	TBA
Frequency recovery time (s)	TBA	TBA	TBA	TBA
Transient voltage deviation (%)	TBA	TBA	TBA	TBA
Voltage recovery time (s)	TBA	TBA	TBA	TBA

*All data comes from actual testing and is for reference only.

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Control Panel

DSE 4520 MKII

Auto start and auto mains failure control module
(Alternator frequency & can speed sensing)

Key benefits

- Ultimate size to feature ratio.
- Automatically transfers between mains (utility) and generator.
- Hours counter provides accurate information for monitoring and maintenance periods.
- User-friendly set-up and button layout for ease of use.
- Multiple parameters are monitored simultaneously which are clearly displayed on the largest back-lit icon display in its class.
- The module can be configured to suit a wide range of applications.
- Compatible with a wide range of CAN engines including Tier 4.
- IP65 rating (with optional gasket) offers increased resistance to water ingress.

Key features

- Auto Start and AMF mode in one module.
- J1939-75 support and CAN alarm ignore function.
- Alternator frequency & CAN speed sensing in one variant.
- Largest back-lit icon display in its class.
- Heated display option.
- Real time clock provides accurate event logging.
- Fully configurable via the fascia or PC using USB communication.
- Extremely efficient power save mode.
- 3 phase generator sensing.
- 3 phase mains (utility) sensing
- Compatible with 600 V ph to ph nominal systems.
- Generator/load power monitoring (kW, kVA, kVar, PF).
- Accumulated power monitoring (kWh, kVAh, kVarh).
- Generator overload protection.
- Generator/load current monitoring and protection.
- Fuel and start outputs (configurable when using CAN).
- 4 configurable DC outputs.
- 3 configurable analogue/digital inputs
- 4 configurable digital inputs.
- Configurable staged loading outputs.
- 3 engine maintenance alarms.
- Engine speed protection.
- Engine hours counter.
- Engine pre-heat.
- Engine run-time scheduler.
- Engine idle control for starting & stopping.
- Tier 4 engine instrumentation screens.
- Battery voltage monitoring.
- Start on low battery voltage.
- Configurable remote start input.
- 1 alternative configuration.
- Comprehensive warning, electrical trip or shutdown protection upon fault condition.
- LCD alarm indication.
- Event log (50)

Expansion devices

☐N/A

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General Arrangement

Main Components

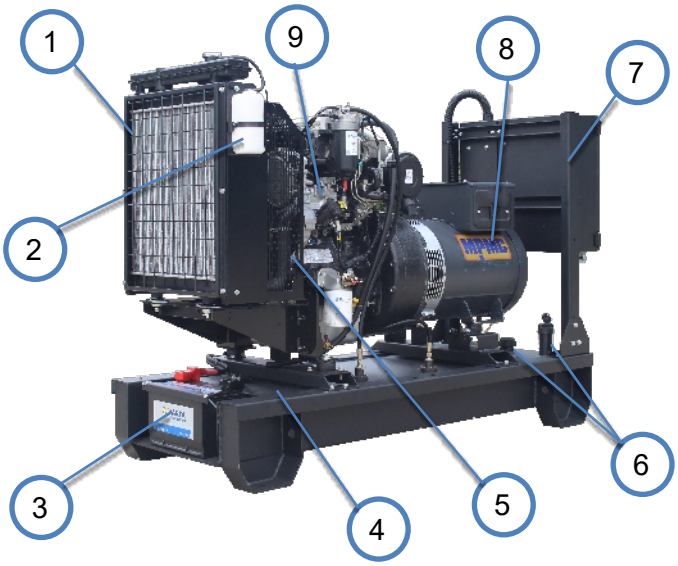
1 Radiator

2 Expansion coolant tank

3 Start up battery

4 Base frame with AVM

5 Protective mesh plate for rotating mechanism



6 Lockable refueling cap Mechanical fuel level gauge

7 Control panel Breaker panel

8 Alternator

9 Engine

10 SR Canopy

11 Hinge

12 Drain port

13 Door lock

14 Outside refueling port

15 Anti-collision feet

16 Air inlet louver

17 Lifting lug

18 Control panel & breaker panel

19 Cable tie-point

20 Forklift hole

21 Smoke cap

22 Radiator access plate

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Generator Options

Basement :

☐6 hours fuel tank
☑8 hours fuel tank
☐12 hours fuel tank
☐24 hours fuel tank
☐Bonded fuel tank
☐Fuel leakage sensor
☑Lifting points
☑Forklift holes
☐Drag holes
☑Expansion joint
☐Quick connector of external fuel pipe & tank
☐Three-way valve
☑Mechanical fuel level gauge
☐Electronic fuel level sensor
☑C-3 painting /☐C-4 painting /☐C-5 painting
☐Others:

Electrical system :

☑CHINT Breaker /☐ ABB Breaker /☐Schneider Breaker /☐Others:
☑Manual breaker /☐Motorized breaker
☐3P Breaker /☑4P Breaker
☐RCD
☐MEN
☑External AC charger
☐Socket:
☐Plug:

Silent Generator Only :

☑Galvanized canopy
☐Stainless steel canopy & hardware
☑Sponge materials /☐Rock wool with mesh plate
☑IP 21 /☐IP 22 /☐IP23
☑Zinc alloy door lock
☑Zinc alloy hinge
☐Access door for radiator
☐Aluminum canopy

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MPMC POWERTECH CORP.

sales@mpmc-china.com | www.mpmc-china.com

MPMC USA MPMC UK MPMC UAE MPMC ZA MPMC CN

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